

Faster Harvester May Save Soil and Water, Too

A new combine header that harvests wheat more efficiently may also help farmers conserve soil and water.

In tests by ARS scientists, the machine gathered grain faster and left more stubble than conventional headers.

The stripper header, developed in England, uses plastic teeth on a high-speed rotating cylinder to strip grain off the stem, rather than cutting the stems to harvest the wheat. "It's best for picking up grain from lodged, or fallen, stems," says Dale E. Wilkins, an agricultural engineer at the Columbia Plateau Conservation Research Center in Pendleton, Oregon.

But Wilkins' main interest is crop residue, the vegetation left on the field after harvest. "We're interested in any concept that will help conserve soil and water," he says.

Wilkins, along with ARS soil scientists Clyde L. Douglas and Joseph L. Pikul, tested the header on experimental wheat fields in Pendleton and Moro, Oregon, and Sidney, Montana. Douglas is in Pendleton and Pikul is at the Northern Plains Soil and Water Research Center in Sidney.

The new header leaves stubble as tall as 3 feet, compared to 1 foot with conventional equipment.

"In the Northern Great Plains, snowfall accounts for about 30 percent of the annual precipitation, and standing stubble is important to trap drifting snow," says Pikul.

In the 1993-94 winter, Pikul says, fields where the stripper header was used trapped 2.7 inches of snow water equivalent. This is the depth of water created when a snow sample is melted. Adjacent fields, where the new header was not used, held only 0.8 inch.

Oregon wheat grower Pat Davis owns five of the headers. He says another plus is that the headers leave straw uniformly across the field, rather than in rows behind the combine.

However, a chaff spreader is still needed to prevent rows of leaves and fine plant debris, Wilkins adds.—By **Kathryn Barry Stelljes, ARS.**

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